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A MONITORING OF THE

POST-SUTTER TRANSIT PREFERENTIAL TREATMENT PROGRAM

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A MONITORING OF THE

POST-SUTTER TRANSIT PREFERENTIAL TREATMENT PROGRAM

SAN FRANCISCO MUNICIPAL RAILWAY • 949 PRESIDIO AVENUE, SAN FRANCISCO CALIF 94115

PLANNING DIVISION

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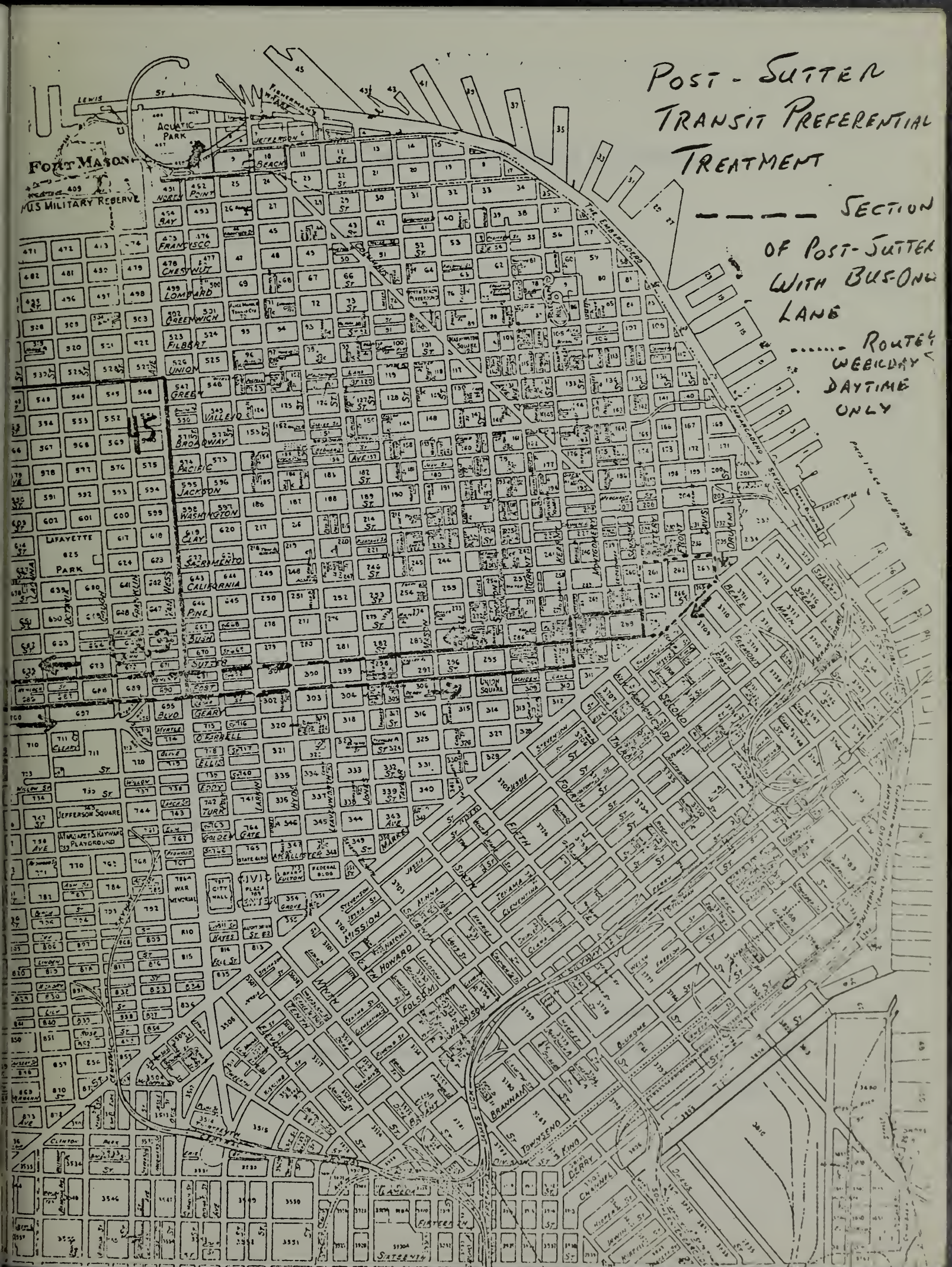
Introduction

The following report pertains to a monitoring program for the transit preferential treatment of Post and Sutter Streets.

The treatment went into effect on January 20, 1975, and was intended to improve transit operations on the Post-Sutter couplet between Gough and Taylor Streets. The affected streets comprise an important auto and transit access thoroughfare for both peak and base period trips. The actual bus lane is located in the right through lane next to the parking lane. The lane is separated from the auto lanes by a strip of white paint. The roadbed of the lanes are painted "Buses and Right Turns Only". There are also signs along the road stating "Buses and Right Turns Only--6:00 AM-7:00 PM. Sundays Excepted."

This report attempts to identify and analyze impacts, both beneficial and detrimental, which the bus lane program may have had on transit and auto operations.


POST - SUTTER
TRANSIT PREFERENTIAL
TREATMENT
SECTION
OF POST-SUTTER
WITH BUS-ONLY
LANE
ROUTE 4
WEEKDAY
DAYTIME
ONLY
FORT MASON
U.S. MILITARY RESERVE
AQUATIC PARK
LEWIS ST
FISHERMAN'S WHARF
JEFFERSON
BEACH
NORTH POINT
BAY
FRANCISCO
CHESTNUT
LOMBARD
GREENWICH
FILBERT
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CLAY
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PINE
SUTTER
GEARY
O'FARRELL
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EDDY
TURK
GOLDEN GATE
MARKET
MISSION
HOWARD
FOLSOM
HARRISON
BRYANT
BRANNAN
TOWNSEND
KING
BERRY
CHANNEL
EMBARCADERO
SEAWALL
LAFAYETTE PARK
JEFFERSON SQUARE
ST. MARGARET'S PLAYGROUND
WAR MEMORIAL
CIVIC CENTER
UNION SQUARE
MONTGOMERY
KEARNY
GRANT
STOCKTON
POWELL
MASON
TAYLOR
JONES
LEAVENWORTH
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PIERCE
SCOTT
DIVISION
SOUTH VAN NESS
CENTRAL
MARKET
BEALE
MAIN
SPEAR
FREMONT
FIRST
SECOND
THIRD
FOURTH
FIFTH
SIXTH
SEVENTH
EIGHTH
NINTH
TENTH
ELEVENTH
TWELFTH
CLINTON PARK
SOUTH PARK
CHINA BASIN
MISSION CREEK
SOUTHERN PACIFIC TRANSPORTATION CO.
SOUTHERN PACIFIC RAILROAD

The report is divided into the following sections:

I. Impact Analysis.
   - A. Traffic Volumes
     1. Auto
     2. Transit
   - B. Accident Volumes
     1. Auto/Auto
     2. Transit/Auto
   - C. Violations
   - D. Schedule Adherence
   - E. Operator and Inspector Reaction

II. Conclusions. This will encompass an overview of the impact analysis as well as general conclusions regarding the program.

III. Recommendations. These recommendations will pertain to possible improvements in the existing program, and will also recommend a format for future monitoring programs.

I. Impact Analysis

Background

Any transit preferential treatment of streets can be expected to have some impact on operations--both transit and auto. The extent of the impact is dependent on two main

factors--the type of thoroughfare undergoing treatment and the nature of the particular preferential treatment. In the case of the Post-Sutter couplet, the thoroughfare are important access streets for transit and auto traffic. (There are five Municipal Railway lines operating on that portion of these streets between Van Ness Avenue and Taylor Street--Routes 1, 2, 3, 4 and 45.) However, this preferential treatment can best be described as limited. The only means of separation between auto and transit traffic is an eight inch strip of paint. The lack of a physical separation between transit and auto traffic indicates that a diligent Police Department enforcement program is required for the program's success. Another important factor to be considered is the fact that the portion of Post and Sutter Streets which has undergone treatment is not in an area where it is needed the most. Most of the congestion on these streets is east of Powell, but the area which has undergone treatment is between Gough and Taylor Streets.

The following study areas are key indicators of possible impacts, detrimental and beneficial, which the program may have had on auto and transit operations. When possible, the information was obtained on dates as close as possible to the inauguration date of the service. This is based

upon an analysis of several transit preferential streets programs conducted by the U.S. Department of Transportation--Transportation Systems Center.[1] The analysis indicated that information relating to a preferential treatment monitoring program should be conducted as soon as possible before and after the implementation of the program.

A. Traffic Volumes

1. Transit

Cities that have inaugurated a priority treatment of transit vehicles have noted an increase in passenger volumes on those lines affected by the treatment. The modest transit preferential treatment of downtown streets in Minneapolis did result in a 7.6% (6176 to 6643) increase in daily patronage. This increase took place despite the fact that overall running times of the coaches did not decrease.

Passenger counts from the Schedule and Traffic Department were reviewed in order to determine any change in patronage resulting from the bus lane treatment. AM Peak Hour counts were available for Lines 1, 3, and 4. They were conducted before and after the inauguration of the program and dates of checks were within 30 days of the date of inauguration (January 20, 1975).

1. Source: "Effects of Bus Priority Alternatives in the C.B.D."--Ann Muzka

The following is a recapitulation of the counts:

Lines	"Before" Counts Jan. 3, 1975	"After" Counts Jan. 30, 1975	% Increase or Decrease
1-California 3-Jackson 4-Sutter	1122	1467	+31%

It should be kept in mind that the rather large increase in patronage may be a result of the fact that the "before" count was conducted shortly after the Christmas vacation period when volumes are usually lower.

2. Autos

(Currently being compiled by Traffic Engineering)

B. Accident Volumes

1. Auto/Auto

Data relating to accidents involving one auto with another auto on the affected portions of Post and Sutter Streets were obtained by the Department of Public Works' Traffic Engineering section. Data from November, 1975 and February, 1975 accident counts were reviewed. These months were chosen since they were closest to the inauguration date of the service. December, 1974 was deliberately

left out since the large volumes of auto traffic associated with Christmas shopping would not constitute a representative sample.

The review of auto accident data indicated the following:

Before	
Period	Total Accidents
November, 1974	Post Street--1
	Sutter Street--2

After	
Period	Total Accidents
February, 1975	Post Street--2
	Sutter Street--6

It should be noted that the increase in accidents may have resulted from lack of familiarity with the bus lanes treatment on the part of motorists.

2. Auto/Transit Accidents

Auto/Transit accident data was obtained from the Municipal Railway Claims Department. As was the case with auto/ auto data, the months of November, 1974 and February, 1975 were chosen.

The results of the data review was as follows:

Before	
Period	Total Accidents
November, 1974	Post Street--3
	Sutter Street--2

After	
Period	Total Accidents
February, 1975	Post Street--2
	Sutter Street--2

C. Violations

Mr. William Horner of the San Francisco Police Departments' Traffic Analysis Unit has tabulated the number of violations of the traffic lanes related to autos operating in the "Buses Only" lane of the Post-Sutter couplet. Mr. Horner stated that the enforcement of the traffic law did not begin until February 15, 1975, although the program itself was in effect until January 20, 1975. The tabulation of violations commenced on February 18, 1975.

Between February 15 and March 5 a total of 208 moving violations of the "Buses Only" lane were distributed. Unfortunately, the Traffic Analysis section did not categorize the available data as to type, location and time of occurance.

Although the 208 citations were considered a high number, the Traffic Analysis Section did note a steady decline in violations as the enforcement program continued. During the first week of enforcement, police officers were dispensing citations at the rate of 1.0 per hour. During the third week of the enforcement program the rate had been reduced to .64 citations per hour.

This indicates that a concentrated enforcement program coupled with greater familiarity with the transit lanes on the part of motorists could reduce the frequency of violations.

D. Schedule Adherence

As noted in the BACKGROUND, exclusive bus lanes are not located in the congested portion of Post and Sutter Streets east of Powell where they are needed the most. Thus, the limited separation of auto transit traffic provided by the "Bus Only" lane can not be expected to have a significant effect on overall schedule adherance.

However, a review of available "before and after" data indicates that a reduction in "late" coaches did take place on some lines following the inauguration of the preferential treatment program. Inspectors' reports made out

during the first two weeks of December, 1974 were compared to those during the first two weeks of February, 1975. The results are as follows:

Routes	Before Dec. 1974	After Feb. 1975	Percent Increase or Decrease
1	33	24	
2	5	8	
3	17	13	
4	1	0	
45	6	1	
Total	62	46	26

E. Inspector and Operator

1. Inspectors

The following are verbatim comments of an Inspector on February 25, 1975, approximately one month after the inauguration of the preferential treatment program.

"The new lane for buses and right turns would appear to be having moderate success.

"The traffic for the most part stays out of these well-marked lanes. The autos that do ignore them tend to move faster than the coaches do, so the purpose of the lane is served. I have not yet seen a violator cited for ignoring the lanes.

"I would suggest that, in order to keep more people from violating the lane, an officer should be given the detail once in a while. This could be done as little as once every seven working days."

It should be noted that at the time of the inspector's observations, the Police Department's Traffic Control Unit was engaged in a special enforcement program. However, the special program was discontinued after March 5, 1975 and any enforcement of the bus-only lane is currently encompassed in the overall traffic code enforcement program of the city.

2. Operators

Question Format

Interviews were conducted with 15 operators who had worked the affected lines before and after the implementation of the bus lanes.

The following are the basic questions put to the operators regarding the transit only lanes:

1. Did you notice any improvement in overall operations as a result of the transit only lane?

2. Did the lanes make it easier to adhere to schedules and make the time points?

3. Was the bus-only lane being enforced by the police? Were there many instances of autos violating the bus lane?

4. Did the bus lanes result in major operation problems?

1. DID YOU NOTICE ANY IMPROVEMENT IN THE OVERALL OPERATION AS A RESULT OF THE TRANSIT ONLY LANE?

The unanimous reaction of drivers to the lane was that it did improve operations although the improvement was a limited one. Several operators noted that the width of the bus lane (18 feet including a parking lane) is not enough for bus operation. They noted that a clearance had to be provided between the coach and the parked cars, but this clearance forced the coaches to intrude on the auto lanes. If the coaches were to remain exclusively in the bus-only lane, the operators faced the danger of making sudden turns to avoid auto doors opening and double-parked autos and trucks.

As is the case with many routes, the double parking

of autos and trucks results in severe restrictions on overall operations. Several drivers felt that any time savings resulting from the bus-lanes are lost as a result of delays due to double parking interference.

The major complaint, stated by several operators, was that motorists who wish to make a right turn wait until the last minute to enter the right turn lane (which is also the bus lane) since they do not want to violate the bus only lane ordinance. This results in the auto swerving in front of the coaches before they make their turn.

2. DID THE LANES MAKE IT EASIER TO ADHERE TO SCHEDULE AND MAKE THE TIME POINTS?

Approximately 1/2 of the drivers stated that it was easier to adhere to schedules, but they also stated that this occured primarily during the peak periods when the amount of auto and truck double parking was less than during the mid-day period. During the peaks the congestion east of Taylor Street was severe enough to negate any benefits resulting from the transit lanes.

Only a few of the drivers felt that the bus lanes resulted in their "holding back" their coach in order to avoid running ahead of schedule.

3. WAS THE BUS-ONLY LANE BEING ENFORCED BY THE POLICE? WERE THERE MANY INSTANCES OF AUTOS VIOLATING THE BUS-ONLY LANE?

The response from these questions may serve as a key element of this report. Almost to a person the operators stated that there were not only rampant violations of the bus-only lane, but that double parking in the lanes themselves continued without abatement. It was further stated that there did not seem to be a concerted effort by the police to enforce either the bus lanes or other traffic laws pertaining to double parking and illegal parking in commercial zones.

Some of the operators noticed that for the first few weeks of the bus lane program, police were diligently enforcing the law and this was seemingly reflected in the number of autos that were violating the lane. However, as noted in Section C-Violations, the program was temporary in nature although it did seem to have a significant effect on reducing violations.

II. CONCLUSIONS

The bus lane program has apparently resulted in improved operations of coaches operating on the streets involved without resulting in significant adverse impacts relating to transit or auto accidents. However, several factors should be noted that pertain to the impact analysis:

1. Based upon the Police Department's Traffic Analysis Unit, as well as Municipal Railway inspectors' and operators' observations, a strong enforcement program of the bus lanes will have a significant beneficial impact on transit operations.

2. Available schedule adherence data and operators' opinions indicate that the lanes have a positive effect on maintaining schedules and making time points. However, this seems to be limited to the peak periods. Double-parking and traffic congestion east of Taylor Street have negated possible bus-lane benefits during the mid-day period.

3. The width of the bus-only lanes during the mid-day period does not seem to be wide enough. Operators must either intrude on to the auto lane or they can stay exclusively in the bus lane and face the risk of hitting opened car doors. If they have to make a sudden turn to avoid hitting a car door, they face the risk of colliding with a vehicle in the auto lane.

III. RECOMMENDATIONS

1. Schedules and Traffic should look into the possibility of adjusting peak period schedules in order that they reflect improved operation on the sections of Post and Sutter Streets which have received bus priority treatment. However, it should be emphasized that this adjustment should keep in mind the possible revision in running times on those sections of the streets which have not received transit priority treatment.

2. The Police Department should be urged to resume and sustain a concentrated effort to enforce the bus lane ordinance and other ordinances that pertain to double parking and illegal curb parking.

3. The Transit Preferential Streets Committee should be urged to consider an adjustment in the width of the bus only lane on Post Street from its current 18 feet to 20 feet. Since the adjacent auto lane is 12 feet, it would not seem unreasonable to shift two feet from the auto lane to the bus lane. With this adjustment, there will be adequate clearance between the coaches and the parked cars without intruding on to the auto lanes.

4. The transit only lane should be extended east to Kearney Street. This is where severe congestion throughout the day results in delays and poor schedule adherence.

5. "Buttons" should be installed on the lane marker, like on Seymour Street in Vancouver, to inhibit autos from crossing it.

Future Monitoring Program

Several transit preferential streets programs are expected to be implemented within the next several months. These include Mission and Fourth Streets as well as a more intensified program on Polk Street.

In order to properly monitor these programs, it is recommended that the following take place:

1. Before the implementation of the program, inspectors or traffic checkers should observe schedule adherence at time points throughout the route (peak and off-peak).
2. Traffic checkers should conduct passenger counts shortly before the implementation date of the program.
3. Traffic Engineering of the Public Works Department should be requested to conduct auto volume counts on the streets that will be undergoing treatment. This should be done shortly before the inauguration of the program.
4. Steps 1, 2 and 3 should be repeated after the implementation of the transit priority treatment. These should be conducted within 30 days of the implementation date.
5. Operator interviews should be conducted shortly after the inauguration of the program. The interviews should be limited to operators who have worked the affected routes before and after the inauguration of the transit preferential

treatment.

If possible, interviews with passengers should be conducted in order to determine the reactions, if any, of the riding public to the priority treatment.